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**Role Models & Professional Development in Dentistry:
an important resource**

The Views of Early Career Stage Dentists at one Academic Health Science
Centre in England

Key Words: role model, dentist, early career, dental core trainee

Abstract

Background: The importance of role models, and their differing influence in early, mid and late careers, has been identified in the process of professional development of medical doctors. There is a paucity of evidence within dentistry on role models and their attributes.

Aim: To explore the views of early career dentists on positive and negative role models across key phases of professional development, together with role models' attributes and perceived influence.

Methods: This is a phenomenological study collecting qualitative data through semi-structured interviews based on a topic guide. Dentists in junior (core training) hospital posts in one academic health science centre were all invited to participate. Interviews were recorded, transcribed verbatim and analysed using framework analysis.

Results: Twelve early career stage dentists, 10 of whom were female, reported having role models, mainly positive, in their undergraduate and early career phases. Participants defined role models attributes in relation to three distinct domains: clinical attributes, personal qualities and teaching skills. Positive role models were described as 'prioritising the patient's best interests', 'delivering learner-centred teaching and training' and 'exhibiting a positive personality', whilst negative role models demonstrated the converse. Early career dentists reported having largely positive dentist role models during- and post- dental school and report their impact on professional values and aspirations, learning outcomes and career choice.

Conclusion: The findings suggest that these early career dentists in junior hospital posts have largely experienced, and benefitted from, positive role models, notably dentists; perceived as playing an important and creative influence promoting professionalism and shaping the career choices of early career stage dentists.

Introduction

A role model has been defined in The Webster's New World Dictionary as: "*A person considered as a standard of excellence to be imitated*" (1); also the process of role modelling has been defined according to medical education as:

"The process in which faculty members demonstrate clinical skills, model and articulate expert thought processes and manifest positive professional characteristics" (2).

Epstein et al. have shown that active observation and reflection, through a mixture of conscious and unconscious activities, is the means via which learning from role models takes place (3). As for the settings in which learning from role models occurs, Hafferty suggests that the influence of role models is evident in formal, informal, and hidden curricula (4).

Role models have been found to exert a very important influence on shaping the professional character of learners, especially in medical education (5-9). A systematic review by Birden et al. reported that one of the best ways of conveying the values of medical professionalism is through role models, and that role modelling is more effective in terms of teaching medical professionalism than didactic classic education (10). Role models have also been identified as influencing the students' career choice, and professional development of medical trainees (11-17). The concept of negative role models, and their effect on hindering the professional development of students and medical trainees, has also been identified (16-20).

Gibson in 2003, from a management perspective, suggested that professionals tend to construe their role models along a set of antonym dimensions including: positive/negative and global/specific throughout their career span from early, through middle, to late career stages; also that early career stage professionals tend to construe their role models as positive and the source of a range of attributes (21). Positive and negative attributes in relation to medical education have been classified in relation to: clinical attributes, personal qualities and teaching skills (16).

Early career stage dentists in the United Kingdom [UK] spend the first year after graduation undertaking Dental Foundation Training (DFT) within primary dental care, usually general practice within the National Health Service (NHS). Some subsequently head immediately into positions within general practice, whilst others prefer to embark on Dental Core Training (DCT) which might last up to three years for those who wish to go through to undertake specialist training (22, 23).

This research questions were as follows:

- Have early career dentists in DCT posts experienced role models, positive and/or negative?
- What are the positive, and negative, attributes of role models perceived and experienced by DCTs?
- What influence do DCTs perceive that role models have had on them in the following three phases: pre, during, and post dental school?

The aim of this study is to gather the views of early career dentists on positive and negative role models across three phases of those dentists' career (pre, during, and post dental school), exploring role models' attributes and perceived influence.

Methods

This research was designed as a phenomenological qualitative study. Data were collected via semi-structured interviews. Interviews were employed as appropriate to explore an under-researched field and, unlike focus groups, provide confidentiality to explore potentially personal issues (24). Ethical approval was granted by King's College London (KCL) College Research Ethics Committee/Biomedical Sciences, Dentistry, Medicine and Natural & Mathematical Sciences Research Ethics Subcommittee (**BDM/14/15-46**).

The participants were early career stage dentists holding positions as Dental Core Trainees (DCTs) at King's College Hospital (KCH), Guy's & St Thomas' Hospitals (GSTT), and working across the dental specialties. The study was designed with the permission of the Postgraduate Dental Dean's office at Health Education England (London) and the support of clinical directors in the two dental hospitals. DCTs were recruited with the assistance of lead tutors who distributed invitation emails, including information sheets. After a preliminary face-to-face meeting with the researcher [OMA], DCTs had at least 48 hours to decide whether or not they were interested in participating and provide a written consent. A topic guide, informed by the literature, was used to guide the interviews so that the same issues were explored with each participant. The topic guide had been piloted with preceding DCTs who were early career dentists; their

experience of role models was explored, followed by these role models' positive and negative attributes.

The interviews ranged from 30 to 60 minutes in length and were audio-recorded. All the recordings from the interviews were transcribed verbatim and imported to NVivo QSR for Mac version 10.2.1 for analysis. Data were analysed using framework analysis, which includes two main steps. First, *data management* through familiarisation, construction of initial thematic framework, indexing and sorting, reviewing data extracts and data summary and display; and second, *abstraction and interpretation* through description and explanation (24). The interpretations obtained were taken back to the participants to be validated and thus ensure the credibility of the findings (25). Checking was undertaken by e-mail and no further suggestions or amendments were recommended.

Results

Respondents:

All core trainees employed during the academic year 2014/15 to work at both King's College (KCH) and Guy's & St. Thomas' Hospitals (GH) (n=28; 20 females) were invited to participate in this study. Whilst 17 DCTs agreed to participate in semi-structured interviews, five withdrew without giving any reason; thus, 12 DCTs were interviewed, two males and 10 females. Participants were all recent graduates (within four years) from five out of the UK's 16 dental schools.

Participants shared their experiences, and views, on role models. It was notable that all DCTs contributing to the research described having positive role models, one or more of whom who were dentists, whilst only a minority reported experiencing negative role models.

The views and experiences of DCTs are presented in two main sections. First, participants' views on role models attributes, for both positive and negative examples. Second, role models perceived impact on trainees' professional development across the three distinct phases: prior to, during, and after dental school, the latter corresponding to their early career. Each is presented in turn, with supporting quotations. Each quotation is coded to include the sex of the participant (M/F), and hospital of employment (KCH/GSTT).

Attributes of Positive role models:

Participants generally defined positive role models attributes in relation to three distinct but intersecting domains: clinical attributes, personal qualities and teaching skills, involving role models interaction with patients, students and trainees, colleagues and team workers, and beyond in a creative and constructive manner. The three domains are presented below, starting with clinical attributes.

Clinical Attributes:

Participants considered clinical attributes as particularly important in dentistry with positive role models exhibiting four main features. First, they were perceived as

employing a patient-centred approach whereby meeting individual patient's needs was central to their role. Second, *demonstrating appropriate dentist-to-patient communication skills*, involving demonstrating their care and simplicity in sharing knowledge to ensure understanding. Third, their *excellence in diagnosis and treatment skills* was recognised in terms of their knowledge, experience, manual dexterity and overall competence. Fourth, and finally, they were reported as *demonstrating leadership*, exemplified by a spirit of teamwork, patience, self-control and respect for others in delivering care. The following quotation from a female DCT demonstrates these attributes and the importance of holding a 'combination' of features:

Their main interest is the patient. I know obviously in our career that should be for everyone, well it's not always but for them all they want to do is look after the patient, and it doesn't matter what it takes. It doesn't matter if it goes into lunch. It doesn't matter if it's extra work for them; their concern is the patient. And then you've got some that... professionally they're very good, so they're very skilled, very knowledgeable. The treatments they carry out are very good and so then, I guess [...] clinically... (FGSTT10)

Personal Qualities:

Participants reported that positive dentist role models demonstrate important qualities in their day-to-day interactions with patients, students/trainees, colleagues, and other health care workers as well as their own families. First, *compassion* which combined being kind, caring and charitable. Second, *humility* as exemplified by the absence of self-promotion, willingness to admit mistakes and continuing their personal development. Third, *integrity* and *trustworthiness* at all levels from their interactions with individuals through to the institution and healthcare system. Fourth, *respect* for their colleagues and other staff. Fifth, a *positive attitude*, particularly exhibited in stressful situations. Sixth, and finally,

demonstrating *balance in life* including time with family. The following quotes illustrate something of the above qualities and their integration:

Okay, the personal qualities, as I say they have to be kind, [...] modest, approachable, friendly, positive as a personality as well [...]; they have to be attractive in the sense of how they interact with people. (FKCH02)

They've done very well in their career but then they've also got a family; they're married; they've got kids; they've got like I guess well-balanced life, like a good personal life as well (*as a good professional life*), and so in that sense, yeah, it seems like their life's quite balanced. (FKCH03)

Teaching Skills:

Participants, having completed their undergraduate education, were gaining additional professional development in dental hospital training posts at time of interview. There was a strong perception that role models in this setting placed the academic and professional development of students and junior staff, as an objective of their teaching.

The DCTs reported how this was best realised through role models with specific qualities: *approachable* as demonstrated by having an open-door policy and being willing to answer questions; *passionate* about teaching dentistry with a love of their subject; *student-centred* in their approach encouraging, supporting, and motivating juniors and delivering *interactive teaching*. The latter included actively engaging trainees in the learning process, through using activities to challenge their minds rather than expecting them to be passive recipients of knowledge. Positive role models were perceived as *constructive critics* where the learner's outcome improvement is the central goal, and ensuring that juniors learnt from their mistakes as illustrated by the following quotes:

I had some excellent teachers [...] and really the role models that stood out to me were the ones that were passionate about passing something else on to us. (FKCH03)

Maybe having [...] an open-door policy where you feel comfortable to share good things, but also share bad things, and mistakes, and know that you're not going to be sort of slaughtered because of it. (FGSTT07)

They wanted to teach you, they wanted to help you do better and improve yourself and actually took genuine interest in you as a student. (FKCH04)

She would give feedback in a really positive manner, and encourage you to think how you can better yourself [...]. A role model challenges you to think about how you can develop yourself. (FKCH03)

Attributes of Negative Role Models

Most participants defined negative role models in terms of parallel, but distinctly unattractive clinical attributes, personal qualities and teaching skills. The impact was perceived by participants as being destructive with students/trainees being kept at a distance or alternatively students/trainees distancing themselves as a form of personal protection.

Clinical Attributes:

Participants viewed negative role models as having money or power as their focus rather than patients, resulting in poor care and communication.

...having motives such as financial gain, rather than patient care ... (FKCH12)

...and [...] clinical, again not doing things as they should be doing but cutting corners and not doing things properly ... (FGSTT10)

... when you're explaining a treatment to the patient and the patient doesn't really know what's going on. I think it can be a bit negative to see someone who's not communicating properly ... (FKCH03)

Personal Qualities:

The personality of a negative role model was viewed as repellent, inducing a negative reaction in juniors. Participants reported how such individuals exhibited poor interpersonal skills involving being overly critical, short tempered, aggressive, harsh, and demonstrating a lack of respect towards colleagues and staff. Their lack of integrity was characterised by evidence of exploitation of authority, being over competitive, selfish, self-seeking and lazy in their everyday interaction with others as illustrated below:

Someone who's in a position of authority, but kind of uses that to belittle the people underneath them. So, rather than encouraging them, just kind of writes them off as a lost cause straightaway; you know, they make one mistake and then it's kind of I don't want to deal with you, and they don't try and help that person. (FKCH01)

I get that they're a teacher or a professor for a reason, but don't be arrogant about it; because I think that really takes the shine off the fact that you're in this kind of position; you need to be humble. (FKCH01)

... Being dismissive, excluding people... (FSTTH09)

Teaching Skills:

Participants reported how learners' academic and professional development was perceived as of low priority because negative role models were unapproachable and disinterested as suggested by the following quotation:

I'd say someone who isn't approachable and will make you feel as if you're inadequate to make you feel too scared to say I don't feel that I'm strong enough in these areas. (FGSTT08)

Negative role models were also perceived as alienating students and trainees, ridiculing them, and using their mistakes as opportunities for destructive criticism rather than their development and thus inappropriate use of power. This is illustrated by the following quotation from a female participant:

I think a negative dental role model would be just someone who, if they was like in a teaching role, don't have the time for you, someone that kind of constantly put you down without giving anything constructive for you to work on or just was negative all the time giving you constant criticism. (FKCH02)

Contrasting role models:

DCTs expressed powerful and contrasting perspectives on positive and negative role models across the linked triad of clinical attributes, personal qualities and teaching skills, with the former leading to creative construction and the latter subjecting them to destructive effects. Moreover, the findings suggest that the basis of both positive and negative role models is their personal qualities, assuming that all will have achieved a certain level of clinical and academic training to hold positions as faculty members or senior clinical staff.

The impact of role models across professional careers to date

Whilst a minority of participants reported having role models prior to entering dental school all participants reported having role models during dental school and in their subsequent early career. Role models were identified as mainly academic staff or clinical tutors during their formative undergraduate years, and specialist trainees and/or consultants during core training. Whilst their influence was reported across both formal and informal settings, it was clear that formal clinical and educational settings were

particularly important areas of interaction. Negative role models were uncommon amongst early career dentists.

Although age was not generally considered important, some participants expressed a view that dentists a few years ahead of them could be particularly helpful. Additionally, whilst role models could be from either sex, some females expressed an interest to learn how senior females successfully combined having a family and a professional career.

Pre-dental school

Where present, participants reported only positive role models in this phase, with their dentist, orthodontist or parents helping to steer their interest towards pursuing a career in dentistry as illustrated by the following quotation:

He sparked my interest in the profession so that I want to do the same, so I think that is one definition of role model, wanting to replicate someone. (MGSTT11)

Whilst there was evidence that both professionals and parents stimulated their interest in dentistry, parents were particularly important in relation to life values and interests. Parents' passion for education was important, with this influence continuing through into participants' early careers as we can see in what this participant had to say:

Again, just going back to my father, he really ... He's very passionate about education, very driven, motivated, and this is where I got this from. (FKCH03)

During dental school: undergraduates

It was notable that most participants identified role models during their undergraduate years. They were largely positive and reportedly influencing their clinical attributes, personal qualities and professional development through setting an example, motivating and inspiring them. Negative role models, although less common, were perceived as

having a negative impact on DCT's learning and level of interest in specific disciplines resulting in their disengagement. The responsibility of role models in demonstrating professionalism in dental school was clearly highlighted in the following quotation:

...what you see them do as you're a student - you would model yourself on that a little bit - so ... I think [...] teachers need to be fair and make sure that they're [...] seen to be professional as well. (FKCH12)

Post-dental school: early career

Positive role models in this phase were perceived as *leading by example*, playing a significant role in conveying the ethos of professionalism, as demonstrated in the following quotation:

...everyone looks up to them in the department, [...] the way they carry themselves off, the way they manage patients, the way they work and treat their team the way they respect their team, and that brings team ethos. (FGSTT08)

Participants reported emulating positive role models in this phase, perceiving them as providing inspiration in the delivery of high-quality patient care as well as shaping and achieving their own professional goals. This was facilitated through showing genuine interest, giving students/trainees time, providing positive relationships, trusting and yet challenging them to do better.

I saw the way she communicated with her patients, her behaviour management techniques, and I think I learned a lot from her, and I took this into my own practice. And I think that's why Paediatric Dentistry is one of the areas I enjoy and excel in. (FKCH03)

I think it's really inspiration and being able to leave, leave a legacy (FKCH03)

Additionally, positive role models were perceived as triggering or reinforcing interest in aspects of dentistry mostly through the combination of their clinical attributes,

outstanding teaching and training skills, and engaging personal qualities, as highlighted by the following description:

My interest is restorative dentistry, so even though at the beginning when I went to dental school, I thought - yeah orthodontics is very nice - but now that's completely changed [...] he (*restorative dentist – endodontist*) was a role model for me because just the way he was with his patients. The way he taught us, he was a brilliant educator. And I really love learning from him. I love his lectures, and stuff, so that got me interested in endodontics. (MGSTT11)

Conversely participants reported experiencing negative role models who created a negative working environment, which extended to a negative perception of their dental specialty as illustrated by the following quotation:

Yeah I mean there have been certain people whom I've seen and I would almost say that their behaviour has put me off the speciality completely because I feel like everyone who seems to be within that respect seems to behave in a particular way [...] it's a very arrogant kind of environment and negative, everyone's trying to beat each other down which I don't like and is not my personality. (FKCH04)

Furthermore, it led to participants avoiding or reducing interaction with such people and seeking help elsewhere as outlined below:

The impact was that I wouldn't seek advice as much, because I didn't agree with the advice that was often given, so it did mean being a little bit more independent and basically seeking advice from other people, associates, or the other associates in the practice. (FKCH12)

Another participant reported adopting attributes opposite to those exhibited by negative role models in this phase of her career, as her way of rejecting them:

... it just helped me strive to make sure that I never take people for granted. It kind of made me want to do the opposite (to a negative role model), if that makes sense? (FGSTT7)

The latter two quotes suggest that although some of the early career dentists would find a way to distance themselves from the effects of negative role models, their presence acted as an obstacle to professional development.

Discussion

This study suggests that role models from within dentistry are perceived to have played a significant role in shaping the professional values and career choice of dentists in dental core training in two London dental hospitals, influencing through their clinical, teaching and personal qualities. To the author's knowledge, it is the first qualitative study exploring the influence of role models of early career dentists and thus forms the basis for further research in this important field.

Whereas some participants identified role models who steered their interest towards a career in dentistry, most reported finding dentist role models in the undergraduate and early career phases of life. These were generally academic and specialist staff involved in teaching and training, which is consistent with what Hafferty (4), Paice et al. (17), Cruess et al. (26) and Wright et al. (27), have identified in relation to medicine; this underlines the importance and responsibility of clinicians involved in dental education.

The findings of this study in terms of positive role models were similar and consistent with the findings in the medical education literature (16, 26, 28). First, these early career dentists identified several contrasting attributes for positive and negative role models; second, these attributes were related to personal qualities, clinical care and teaching

skills, paralleling the medical literature (16), moreover this research suggests that the most attractive positive role models for early career dentists are those who have the most refined personal qualities. Third, the findings are consistent with those in the literature in terms of the influence of role models on learners' career choices (11-16, 29); and, fourthly, professionalism (30, 31). There was evidence from DCTs that positive role models have influenced their clinical skills, personal attributes and are shaping their professionalism and their career choice. These findings highlight the powerful role that educators and trainers play in the lives of early career dentists from student days onwards. And the evidence of their positive view and experiences of role models is encouraging. None-the-less it may be that DCTs with positive role models were more likely to participate in the research or that because of the context, they were less comfortable talking about negative role models.

The majority of the participants in this study reported the benefit of positive role modelling as conveying professional ethos which is important for dentistry (32); and particularly important in the formal undergraduate curriculum in the UK where professionalism is now one of four domains in the General Dental Council's 'Dental Team Learning Outcomes' (33). These findings parallel the medical literature which emphasise the importance of role models (16), and the conscious and unconscious effects they have on students' adoption of role models professional behaviour (3, 26). Moreover, role models are reportedly manifest in shaping participants' personal and clinical qualities and attributes, and valued for doing so. It was notable that positive role models were less commonly reported during participants' foundation training year in primary

dental care as compared with their undergraduate and core training phases. This could perhaps be explained by the level of interest in specialisation; hence, a different perspective may be obtained from early career dentists who remain in primary dental care. Therefore, the importance of role models being evident in core training period may have related to the immediacy of experience, or that these core trainees were more interested in specialist training and thus drew their role models from amongst consultants/specialists and specialty trainees. Further qualitative and quantitative research is thus required in this field, together with examination of long-term professional careers. This should inform the professional development of trainers and educators in dentistry.

The authors suggest that there are two main implications of the findings from this study for dental educators and trainers at undergraduate level and beyond. First, educators and trainers must be fully aware of the important influence they have on their students/trainees and model positive attributes, skills and qualities. Second, dental schools and hospitals should develop mechanisms via which they support positive role models in support of professionalism.

Conclusion

The findings from one academic health science centre suggest that early career dentists have experienced and benefitted from positive role models. Their positive role models were mostly dentists perceived as demonstrating clinical attributes, teaching skills and personal qualities which include raising awareness of professional values and guiding the professionalism, clinical care and career choices of these dentists in a creative manner.

Dentists who prioritise patients' best interests, support learners' academic, clinical and professional development and exhibit positive personal characteristics towards others, were considered positive role models.

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